

Kansas Math Educators Attrition Study 2018

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Attrition Study of Mathematics Educators in the State of Kansas 2010-2016

This report is the second analysis conducted in the state of Kansas to evaluate teacher turnover in math at the state level across a number of variables including size of district, regions, urban vs. rural, and areas of teaching. On a national level, special education, mathematics, and science have been typically found to have the highest turnover rates (Ingersoll, 2006). Arguments have been made that science and mathematics teachers are more likely to leave the education field to pursue alternative careers in business and technology, often times with higher salaries (Ingersoll & May, 2012). This report defines an educator as a leaver if they were not employed in the next school year as a mathematics teacher. The educator may leave the field due to retirement, relocation, change to a different field, or another reason that is not documented in this report. The national average for mathematics educator attrition is 7.2% (Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D., 2016).

Kansas Math Educator Attrition at the State Level

The following table reports attrition numbers over the last 6 years for math educators in the state of Kansas. As reported in last year's report, the state has an overall slightly lower attrition rate than the national average for math educators of 7.2%.

Year	Educators	Leavers	Attrition Rate
2010	4933	408	8.3%
2011	4370	291	6.7%
2012	4420	282	6.4%
2013	4533	320	7.1%
2014	4521	316	7.0%
2015	4553	331	7.3%
2016	4317	719	28.3%
<i>Total</i>	27330	1948	7.1%

Table 1 Kansas Math Educator Attrition at the State Level

Attrition by Level of Math Position

The following table displays the findings of attrition by levels of teaching. Middle-level educators are defined as those who teach grades 5 – 8. High-level educators are those who teach grades ranging from 5 – 12. For example, an educator who is assigned grades 5 thru 12 would be counted towards the high-level. High school level educators experienced a higher attrition rate at 7.8% than middle level educators at 6.6%.

	Educators	Leavers	Attrition Rate
<i>2010</i>	2286	212	9.3%
<i>2011</i>	1849	143	7.7%
<i>2012</i>	1925	122	6.3%
<i>2013</i>	1885	151	8.0%
<i>2014</i>	1941	142	7.3%
<i>2015</i>	1924	154	8.0%
<i>2016</i>	1771	323	18.2%
<i>Total</i>	11810	924	7.8%

Table 2 Attrition of Math Educators by High School Level

	Educators	Leavers	Attrition Rate
<i>2010</i>	2647	196	7.4%
<i>2011</i>	2521	148	5.9%
<i>2012</i>	2495	160	6.4%
<i>2013</i>	2648	169	6.4%
<i>2014</i>	2580	174	6.7%
<i>2015</i>	2629	177	6.7%
<i>2016</i>	2546	903	35.4%
<i>Total</i>	15520	1024	6.6%

Table 3: Attrition of Mathematics Educators by Middle School Level

Attrition by Region of the State

Table 4 reports attrition rate by region of the state for the 2015-16 school year, and Table 5 reports the average attrition over the last 6 years by region. The state has been divided into 9 regions, 8 of which are regionally in the state. For example, the southeast corner, and 2 are urban areas in the state; Sedgwick county and Wyandotte/Johnson county. A complete map of the regions can be viewed in Appendix A. In 2015-16, Kansas City experienced the highest attrition at 9.0%, while the southwest had the lowest at 5.3%. Historically, over the last 6 years Kansas City has averaged the highest attrition with 8% leaving the workforce, while South Central clearly has the lowest attrition rate at 6.2%.

Region	Average Attrition Rate
<i>Northwest</i>	6.7%
<i>Southwest</i>	5.3%
<i>Northcentral</i>	7.6%
<i>Southcentral</i>	5.9%
<i>Sedgwick</i>	8.5%
<i>Northeast</i>	7.3%
<i>Kansas City</i>	9.0%
<i>East Central</i>	6.0%

<i>Southeast</i>	6.5%
<i>Total</i>	7.3%

Table 4 Math Educator Attrition Average of 2016-17

Region	Average Attrition Rate
<i>Northwest</i>	7.4%
<i>Southwest</i>	7.3%
<i>Northcentral</i>	7.5%
<i>Southcentral</i>	6.2%
<i>Sedgwick</i>	7.5%
<i>Northeast</i>	7.1%
<i>Kansas City</i>	8.0%
<i>East Central</i>	6.6%
<i>Southeast</i>	6.8%
<i>Total</i>	7.3%

Table 5 Attrition by Region from 2010-2015

Attrition by Rural vs. Urban Districts

Historically, a higher attrition rate has been reported in urban districts compared to rural districts. The following tables examine the difference between rural and urban districts in Kansas. An urban district is located primarily in one of the following counties: Sedgwick, Shawnee, Johnson, and Wyandotte. Kansas attrition rates did not follow the national tendency, with rural districts having a slightly higher attrition rate of 7.5% than urban districts at 6.7%. This may be explained by the poverty level of the districts that fall in one of the urban counties. Some of these districts could better be described as suburban, and future analysis may be beneficial to examine the urban districts by poverty level.

Year	Teachers	Leavers	Attrition Rate
<i>2010</i>	2,734	272	9.9%
<i>2011</i>	2,356	168	7.1%
<i>2012</i>	2,377	139	5.9%
<i>2013</i>	2,466	178	7.2%
<i>2014</i>	2,446	169	6.9%
<i>2015</i>	2,455	190	7.7%
<i>2016</i>	2,392	189	7.9%
<i>Total</i>	17,226	1,305	7.6%

Table 6: Rural Attrition Rates by Year

Year	Teachers	Leavers	Attrition Rate
<i>2010</i>	2,196	136	6.2%
<i>2011</i>	2,014	123	6.1%

2012	2,043	143	7.0%
2013	2,067	142	6.9%
2014	2,075	147	7.1%
2015	2,098	141	6.7%
2016	2,102	178	8.5%
<i>Total</i>	14,595	1,010	6.9%

Table 7: Urban Attrition Rates by Year

Attrition of Math Educators by District Size

Tables 8, 9, and 10 examine attrition by district size. District size has been defined previously in the special education attrition report with the following parameters. These parameters are followed in the data analysis for mathematics also to allow for future comparisons across teaching areas. Large districts are defined as those who employ 100 or more personnel, medium districts employ between 11 to 99 personnel, and small districts are those who employ fewer than 11 people in special education positions. Overall, the district size hasn't demonstrated a significant difference in attrition rate with large, medium, and small districts averaging 7.1% and 7.2% attrition over the course of the last 6 years.

	Teachers	Leavers	Attrition Rate
2010	2,273	178	7.8%
2011	2,065	136	6.6%
2012	2,101	147	7.0%
2013	2,141	157	7.3%
2014	2,164	152	7.0%
2015	2,197	158	7.2%
2016	2,174	192	8.8%
<i>Total</i>	15,115	1,120	7.4%

Table 8: Large District Attrition

	Teachers	Leavers	Attrition Rate
2010	1,333	102	7.7%
2011	1,187	78	6.6%
2012	1,169	68	5.8%
2013	1,207	87	7.2%
2014	1,189	82	6.9%
2015	1,190	98	8.2%
2016	1,184	80	6.8%
<i>Total</i>	8,459	595	7.0%

Table 9: Medium District Attrition

	Teachers	Leavers	Attrition Rate
2010	1,327	128	9.7%

2011	1,118	77	6.9%
2012	1,150	67	5.8%
2013	1,185	76	6.4%
2014	1,168	82	7.0%
2015	1,166	75	6.4%
2016	1,142	95	8.3%
Total	8,256	600	7.3%

Table 10: Small District Attrition

Conclusion

The findings of the report demonstrate that the attrition of math educators in the state of Kansas continues to trend with the national average of attrition of 7.2% for math educators. It is important to note that while overall attrition in Kansas reflects the national average there are areas of Kansas that are experiencing higher rates of leavers. High school level educators have experienced higher attrition with 7.8% over the last 6 years. Additionally, particular regions of the state are experiencing higher attrition with Kansas City averaging 8%. It will be important to continue to monitor these areas in particular for any changes in attrition and examine if there are improvements in teacher support and retention that could impact the attrition rates.

References

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Appendix A

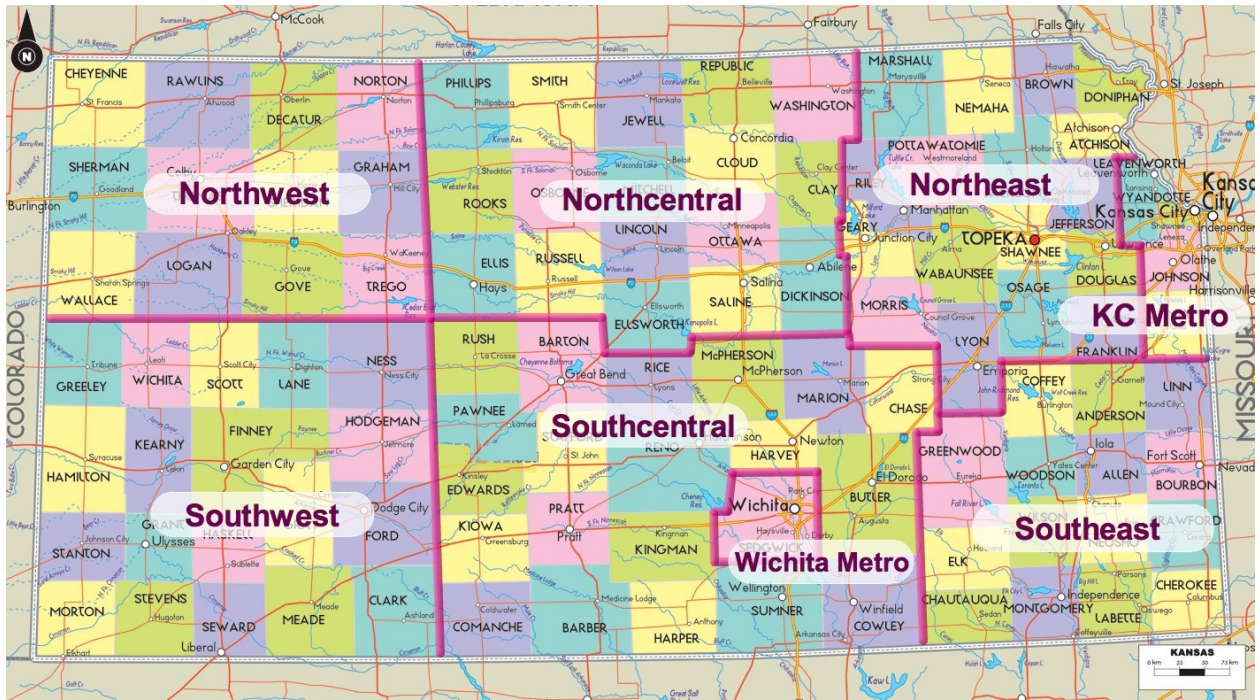


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